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Part VI

Department of Transportation

Coast Guard

New and Existing Tank Barges; Proposals for Prevention of Oil Pollution

DEPARTMENT OF TRANSPORTATION

Coast Guard

[46 CFR Parts 30, 32, and 35]

[CGD 75-083]

Proposed Design Standards for Tank Barges to Prevent Oil Pollution

AGENCY: Coast Guard, DOT.

ACTION: Proposed Rule; withdrawal of prior proposed rule.

SUMMARY: the Coast Guard proposes to amend the tank vessel regulations to require double hull construction for all new tank barges designed to carry oil in bulk on the navigable waters of the United States and to prohibit these barges from carrying oil in the void spaces of their double hulls. A study sponsored by the Coast Guard shows that approximately 80 percent of the oil pollution caused by tank barges could have been prevented if these barges had double hull construction. Double hull construction on new tank barges will reduce the number of accidental discharges of oil due to hull damage.

DATES: 1. Written comments must be received on or before September 30, 1979. 2. The public hearings will be held on August 2, 1979, August 15, 1979, August 23, 1979, and September 7, 1979.

ADDRESSES: Written comments should be submitted to Commandant (G-CMC/81) (CGD 75-083), U.S. Coast Guard, Washington, D.C. 20590.

Comments will be available for examination at the Marine Safety Council (G-CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590. Studies referred to in this document are appendixes to the Regulatory Analysis and Environmental Impact Statement (Regulatory Analysis) summarized in this document. Copies of the Regulatory Analysis are available for examination at this address.

The Coast Guard will hold 4 public hearings concerning this proposal in conjunction with the public hearings on the advance notice of proposed rule making appearing elsewhere in this issue of the **Federal Register** (See table of contents for page number). The first will be held on August 2, 1979, beginning at 9:00 a.m., in Room 2230, 400 7th Street, SW., Washington, DC 20590. The second will be held on August 15, 1979, beginning at 9:00 a.m., in the Olympic Hotel, Williamsburg Room, Fourth and Seneca Streets, Seattle, WA 98111. The third will be held on August 23, 1979, beginning at 9:00 a.m., in the Holiday Inn Superdome Downtown, Russel B. Long Room, 1111 Gravier Street, New Orleans, LA 70122. The Fourth will be held on September 7, 1979, beginning at 9:00 a.m., in the Stouffers Riverfront Towers, Jefferson A and B Rooms, 200 South Fourth Street, St. Louis, MO 63102.

FOR FURTHER INFORMATION CONTACT: Lieutenant Commander Eugene K. Johnson, Merchant Marine Technical Division (G-MMT-1/82), U.S. Coast Guard, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590 (202-426-4431).

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in this rule making by submitting written views, data, or arguments. Each comment should include the name and address of the person submitting the comment, reference the docket number (CGD 75-083), identify the specific section of the proposal to which each comment applies, and include sufficient detail to indicate the basis on which each comment is made. All comments received before expiration of the comment period will be considered before final action is taken on this proposal. Interested persons are invited to attend the hearings and present oral or written statements on this proposal. It is requested that anyone desiring to make an oral statement notify Captain Philip J. Danahy, at the address listed under ADDRESSES, at least 10 days before the scheduled date of the public hearing and specify the approximate length of time needed for the presentation. Oral statements at the public hearing will normally be scheduled to be heard in the order that requests are received. It is urged that a written summary or copy of the oral statement be included with that request.

Drafting Information

The principal persons involved in drafting this proposed rule are Lieutenant Commander Eugene K. Johnson, Project Manager, Office of Merchant Marine Safety, and Mr. Stanley M. Colby, Project Attorney, Office of Chief Counsel.

Discussion

Background and Withdrawal of Prior Proposed Rule

In the December 24, 1971 issue of the **Federal Register** (36 FR 24960), the Coast Guard published a notice of proposed rule making which, along with many other proposals, contained design standards to prevent pollution from tank barges on inland routes. One of these proposals called for double walls on the sides and ends of tank barges but not for double bottoms. The inland barge industry entered strong objection to the proposed requirement for double wall construction. The basis of the objection was that the Coast Guard had not adequately investigated the cost nor had it established a case that double walls would significantly reduce oil pollution. Due to these comments, the proposed requirement for double walls on inland tank barges was not included in the final rules published on December 21, 1972 (37 FR 28250) and this document withdraws that proposal (proposed § 155.305).

The Coast Guard, in cooperation with the Maritime Administration, entered into a study of costs and alternatives available to reduce oil pollution caused by tank barge hull damage. The joint Maritime Administration/U.S. Coast Guard "TANK BARGE STUDY," NTIS # COM-75-10284/AS, was completed in October 1974. As a basis for this study, a survey of tank barges damaged in a one year period was conducted and a fleet profile of the sizes and types of construction used for existing barges was developed. Data from the Pollution Incident Reporting System, established by the Coast Guard in December 1971 to implement Section 311 of the Federal Water Pollution Control Act, was used to determine the amount of oil spilled by tank barges in the inland waters.

Various alternative designs for preventing oil pollution from tank barges were developed by the Coast Guard for several size categories. These alternatives were evaluated for both new tank barges and retrofitting of existing tank barges.

The effectiveness of the various alternatives was evaluated by two methods. As the first method, the damage survey from the study was compared against each alternative to determine if pollution would be prevented by that alternative. The conclusion reached by this method was that double hulls with a 24 inch separation of the inner and outer hulls would be 96 percent effective in preventing pollution due to hull damage. As the second method, field reports for tank barges in the Coast Guard Merchant Vessel Casualty File were analyzed for the same time period used in the first method. Only reports of damage with ensuing pollution were used. The conclusion reached by this method was that double hulls would be 95% effective in preventing pollution due to hull damage. The second method also showed that bottom damage is

important and has to be considered for effective design.

As a part of the 1974 Tank Barge Study, the life-cycle costs of the various alternatives were investigated by an outside contractor under a contract to the Maritime Administration. The Maritime Administration has updated these costs to 1978 levels and has calculated the additional costs for double hulls on ocean and coastwise tank barges.

Much of the information used in the joint study was supplied by the barge industry. Ample opportunity for comment on the results of the study was given by presenting most of the information in a paper, "Alternative Inland Tank Barge Designs for Pollution Avoidance", presented at the spring meeting of the Society of Naval Architects and Marine Engineers in May 1974 at Chicago, Illinois before the report was finished. Criticism of the study was that it used only a 1 year data base and that the pollution data was not good. The Pollution Incident Reporting System had been in operation only about 2 years at the time of the study. As with any new data system, problems occurred during implementation of the reporting procedures and early data in this system ranged from "not good" to "inadequate."

To identify the magnitude of oil pollution from tank barges and to determine the causes of that pollution, a contract was awarded by the Coast Guard to Automation Industries, Inc. on July 13, 1977. The final report, CG–M–2–78 "Tank Barge Oil Pollution Study," was submitted to the Coast Guard in February 1978. The following Coast Guard maintained data and file systems were used in the study: the Pollution Incident Reporting System (PIRS), Commercial Vessel Casualty Reporting System, Inspected Barge File, and District Penalty Files, for the years 1974 through 1976. The PIRS data was verified by sampling penalty files maintained in Coast Guard field offices and was found to be adequate, probably due to the maturity of the Pollution Incident Reporting System and the increased emphasis placed on pollution prevention in recent years.

For this 3 year period, the volume of oil spilled from tank barges was 173,971 barrels. This compares to a total of 288,704 barrels of oil spilled from tankships for the same period of which 178,571 barrels were spilled in a single incident, the ARGO MERCHANT. The oil spilled by tank barges occurred in the inland waters, harbors and near coastal waters of the U.S. These waters are ecologically very sensitive to oil pollution and are highly visible to the public.

Of the oil spilled by barges, approximately 85% of the total volume was spilled in a relatively small number of incidents which occurred during the barge transport of oil and usually involved hull damage. Based on the 1974 study, approximately 80% of the volume of tank barge oil pollution can be eliminated by a double hull construction standard with a 24 inch separation of hulls. The analysis discussed in the following paragraph established that the effectiveness of double hulls may be as high as 89% in reducing the volume of oil pollution from tank barges.

For the years 1973 through 1977, an analysis of the Pollution Incident Reporting System data and the Commercial Vessel Casualty Reporting System data has been performed by the Coast Guard. Of 164 hull damage incidents having spills of 500 gallons or greater which have a total volume of 178,500 barrels, 94% of the total volume for the period, 91 casualty reports were identified. These reports were analyzed to determine if the routes for which tank barges are certificated has an impact on the pollution potential of tank barges, and the analysis disclosed that the route for which a tank barge is certificated does not appear to influence the pollution potential.

Proposed Regulations

The regulations proposed in this document would be codified in 46 CFR Subchapter D (Tank Vessels) in a new Subpart 32.64. While the proposed regulations are intended to prevent pollution and could have been placed in 33 CFR Part 157, the regulations are design standards and should be in Subchapter D. The proposed regulations would only apply to tank barges that carry oil. The definitions of oil and crude oil are included in the proposal for facilitation in applying the regulations, since these definitions are not now contained in Subchapter D.

The proposed regulations would apply to new tank barges, which are defined as those constructed or converted under a contract awarded after December 31, 1979, or in the absence of a contract, where the actual construction or conversion of the barge begins after December 31, 1979. The December 31, 1979, proposed date was selected by the Coast Guard based on the time frame anticipated for publishing this notice, holding hearings and receiving written comments, evaluating all the comments and publishing final rules. This date will be changed if substantial delays are encountered.

Since the analyses performed indicate that double hulls are necessary for all barges regardless of the route they are certificated for, the proposed regulations would apply to inland and seagoing barges. However, it is proposed to limit the application of the requirements to product carriers of less than 30,000 DWT and crude oil carriers of less than 20,000 DWT. Since the pollution prevention regulations for tank vessels (33 CFR Part 157) apply to both tank ships and tank barges; they are considered sufficient to meet the environmental mandate of Congress for any tank ships and tank barges larger than the proposed tonnage limits. Tank barges of this size are limited to the same areas of operation as tankships due to their size.

The proposed regulations would require that cargo tanks be located a minimum of 24 inches from the hull of the barge. This separation was chosen based on the expected effectiveness of this separation developed in the 1974 Tank Barge Study and the Coast Guard's opinion that this is the minimum separation that would permit inspection of the spaces between the cargo tanks and the hull. A review of representative plans for existing double hull barges has shown that most of these barges are now built with cargo tanks located 24 to 30 inches from the hull even though present regulations would allow 15 inches. However, the 15 inch minimum now allowed for double bottoms was originally established for independent cylindrical tanks and not for a full double bottom.

In the void spaces between the hull and cargo tanks the internal structures would have to be arranged so that the spaces can be inspected. Sounding devices to detect leakage into the spaces and a means of pumping out the spaces would be required. An access to enter the space would also be required. If vents are installed, even though not required under § 32.55–45(b), the proposed regulations would require flame screens in the vents. This is considered necessary for safety reasons because of the possibility of cargo leakage into the spaces.

The proposed regulations would require that the double hull tank barges meet a minimum stability standard. If the space between the cargo tanks and the hull is not subdivided properly, a barge could sink or capsize with only minor damage to the hull. The proposed standard would require that the subdivision of the space be arranged so that the barge will remain afloat and not capsize after holing the hull anywhere except on a transverse watertight bulkhead. 33 CFR Part 157 (Subpart B)

also contains stability requirements for certain seagoing tank barges.

The proposed regulations would prohibit the carriage of oil in the spaces between the cargo tanks and the hull of the barge. However, for larger barges where ballast may be needed in the unloaded condition, these spaces could be used for ballast water. This prohibition would only apply to new tank barges if this becomes a rule but a similar prohibition for existing tank barges is being considered in the advance notice appearing elsewhere in this separate Part VI in today's **Federal Register** (see table of contents for page number).

Section 30.01–5 of Subchapter D would be revised to require foreign tank barges operating on the navigable waters of the United States to meet the requirements of Subpart 32.64. There does not appear to be any significant trade at this time that would be affected should this become a rule. The change is considered necessary to prevent the development of a new trade to avoid these proposed regulations.

In addition to the proposal in this document, an Advance Notice of Proposed Rulemaking, appearing in this issue of the **Federal Register**, solicits ideas on how the existing single hull tank barges may be regulated to (1) reduce oil pollution due to hull damage while these barges are in service; and (2) hasten the retirement of single hull tank barges from the fleet so that transition to a double hull tank barge fleet can be accomplished in a timely manner.

This proposal has been reviewed under Department of Transportation's "Regulatory Policies and Procedures" (44 FR 11034, February 26, 1979). A Draft Evaluation has been prepared, and is included in the public docket.

Economic Impact

The major economic impact of a requirement for double hulls on new tank barges is the increase in cost for double hull construction over single hull construction. The costs have been calculated for inland and seagoing tank barges. A trend to double hull construction for inland tank barges exists; therefore, the total additional cost for double hull construction for inland tank barges that might otherwise have been single hull construction is approximately 2.3 million dollars for the period 1979 to 1983 in 1978 present value dollars. By 1983 it is assumed from current trends that all inland tank barges would have been built double hull regardless of these regulations.

Seagoing tank barges would not have been built to double hull standards without these regulations. The cost per barge for a double hull ocean barge is considerably greater than for an inland tank barge. It is estimated that 7 single hull seagoing tank barges will be built in 1979. The estimated additional cost for double hulls on these 7 barges is about 7.1 million dollars. The total 1978 present value additional cost for double hulls on seagoing tank barges, to replace all existing single hull seagoing tank barges by 1999 is approximately 144.0 million dollars.

A detailed discussion of the costs is included as Chapter 4 of the Regulatory Analysis. The effects of the proposed regulations on the transport of oil and the reduction of oil pollution are also evaluated.

Summary of Regulatory Analysis

A single draft Regulatory Analysis and Environmental Impact Statement has been prepared for this notice of proposed rulemaking and the advance notice of proposed rulemaking for existing tank barges. This was done so that the scope of the Coast Guard's regulatory action to prevent oil pollution from barges is clearly presented and all applicable information is available to the public in a single document. All the major background studies are included as appendixes to the Regulatory Analysis.

The Regulatory Analysis establishes the need for regulations by carefully analyzing pollution and casualty data. The double hull design was selected based on effectiveness for preventing pollution due to hull damage which was established in the 1974 Tank Barge Study. The alternatives to double hull design are discussed and the reasons for the Coast Guard rejecting these alternatives are presented. Alternatives considered were:

(a) Publish no additional standards. (No action)

(b) Publish less stringent regulations than those proposed which included heavier scantlings either in selected areas or overall, double sides and ends, or tank size limits.

(c) Publish regulations more stringent than those proposed by requiring the carriage of oil in Type I or Type II barge hulls as currently defined in Coast Guard regulations.

(d) Reduce oil consumption or reduce the amount of oil transported by tank barges.

(e) Use a different mode of transportation for the movement of oil.

In consideration of the foregoing, it is proposed to amend Subchapter D of Title 46, Code of Federal Regulations, as follows:

PART 30—GENERAL PROVISIONS

1. By revising § 30.01–5(e) to read as follows:

§ 30.01–5 Application of regulations—TB/ALL.

* * * * *

(e) This subchapter applies to each foreign flag vessel that carries combustible or flammable liquid cargoes on the navigable waters of the United States, except if the vessel has on board a current and valid Safety Equipment Certificate, issued under its Government that is signatory to the International Convention for the Safety of Life at Sea, 1960 (16 UST 185, TIAS 5780), or a current and valid certificate of inspection, issued under its Government having reciprocal vessel inspection arrangements with the United States and vessel inspection laws similar to the inspection laws of the United States, the vessel must only meet the following:

(1) Subpart 32.64.

(2) Sections 35.01–1 and 35.01–60.

(3) If the vessel is involved in a marine casualty or accident when on the navigable waters of the United States, Subpart 35.15.

(4) Subpart 35.30, except § 35.30–15.

(5) Subpart 35.35.

* * * * *

PART 32—SPECIAL EQUIPMENT, MACHINERY, AND HULL REQUIREMENTS

2. By adding a new Subpart 32.64 to follow Subpart 32.63 and to read as follows:

Subpart 32.64—Hulls for New Tank Barges—B/ALL

Sec.

32.64–3 Definitions.
32.64–5 Applicability.
32.64–10 Hull structure.
32.64–15 Subdivision and stability.

Authority: R.S. 4417a (46 USC 391a, as amended by Pub. L. 95–474, Port and Tanker Safety Act of 1978); 49 CFR 1.46(n)(4)

§ 32.64–3 Definitions.

As used in this Subpart:

"New tank barge" means a non-self-propelled vessel that carries oil in bulk and that is—

(a) Constructed or undergoes a major conversion under a contract awarded after December 31, 1979; or

(b) In the absence of a contract—

(i) Has the keel laid or is at a similar stage of construction after December 31, 1979; or

(ii) Major conversion is begun after December 31, 1979.

"Oil" includes oil of any kind or in any form, including, but not limited to,

petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

"Major conversion" means a conversion of an existing vessel which substantially alters the dimensions or carrying capacity of the vessel; or changes the type of vessel; or substantially prolongs its life; or which otherwise so alters the vessel that it is essentially a new vessel.

"Crude Oil" means any liquid hydrocarbon mixture occurring naturally in the earth, whether or not treated to render it suitable for transportation, and includes crude oil from which certain distillate fractions may have been removed, and crude oil to which certain distillate fractions may have been added.

§ 32.64-5 Applicability.

This subpart applies to new tank barges of less than 30,000 DWT except new tank barges of 20,000 DWT or more that carry only crude oil.

§ 32.64-10 Hull structure.

Each tank barge to which this subpart applies must be designed and constructed having—

(a) The outer boundary of each cargo tank at least 60 cm (24 inches) from the inner surface of the side, bottom, and fore and aft end hull plating; and

(b) In the spaces between the cargo tanks and the hull of the barge—

(1) Sufficient clearance between the internal structures to allow a person of average height and weight to inspect the hull;

(2) Sounding devices meeting § 56.50-90 of this chapter;

(3) Bilge pumps meeting § 56.50-55 of this chapter;

(4) An access of at least 38 cm. by 46 cm. (15" by 18") that may not be on a cargo tank boundary; and

(5) If vents are installed, flame screens, as defined in § 30.10-25 of this subchapter.

§ 32.64-15 Subdivision and stability.

The hull of each new tank barge under this subpart must be designed to retain, under any condition of loading, positive buoyancy and stability, 51 mm (2 inches) of positive metacentric height, after the bottom or side shell plating of the outer hull is holed anywhere on its girth except in way of a transverse watertight bulkhead.

Note.—There are additional requirements for seagoing tank barges in 33 CFR Part 157 (Subpart B).

PART 35—OPERATIONS

3. By adding a new § 35.01-60 to follow § 35.01-50 and to read as follows:

§ 35.01-60 Oil in void spaces of new tank barges—B/ALL.

A new tank barge under Subpart 32.64 of this subchapter may not carry oil as cargo in the void spaces between the hull and the cargo tanks.

(R. S. 4417a (46 USC 391a, as amended by Pub. L. 95-474, Port and Tanker Safety Act of 1978); 49 CFR 1.46(n)(4))

R. H. Scarborough,

Vice Admiral, U.S. Coast Guard, Acting Commandant.

June 11, 1979.

[FR Doc. 79-18585 Filed 6-13-79; 8:45 am]

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[46 CFR Chapter I, Subchapter D and O]

[CGD 75-083a]

Proposal for Existing Tank Barges To Prevent Oil Pollution

AGENCY: Coast Guard, DOT.

ACTION: Advance Notice of Proposed Rulemaking.

SUMMARY: The Coast Guard is proposing to accelerate the normal attrition of certain single hull tank barges certificated to carry oil and to reduce the number of oil pollution incidents resulting from hull damage to these barges while they continue in operation. A study sponsored by the Coast Guard has shown that approximately 80 percent of the oil pollution caused by tank barges could have been prevented if these barges had complete double hull construction. Analysis of the tank barge fleet profile indicates that normal attrition of single hull tank barges from the operating fleet would delay the total realization of this dramatic reduction in oil pollution until some time beyond the year 2020. This advance notice is intended to complement proposed design standards for new tank barges to reduce oil pollution in the navigable waters of the United States.

DATES: 1. Written comments must be received on or before September 30, 1979.

2. The public hearings will be held on August 2, 1979, August 15, 1979, August 23, 1979 and September 7, 1979.

ADDRESSES: Written comments should be submitted to Commandant (G-CMC/81), (CG 75-083a), U.S. Coast Guard, Washington, D.C. 20590. Comments will be available for examination at the Marine Safety Council (G-CMC/81), Room 8117, Department of Transportation, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. 20590. Studies referred to in this document are appendices to the Regulatory Analysis and Environmental Impact Statement (Regulatory Analysis) summarized in this document. Copies of the Regulatory Analysis are available for examination at this address.

The Coast Guard will hold four public hearings on this advance notice of proposed rulemaking in conjunction with the public hearings on the notice of proposed rulemaking appearing elsewhere in this issue of the Federal Register. The first will be held on August 2, 1979 beginning at 9:00 AM, in Room 2230, 400 Seventh St., S.W., Washington, D.C. 20590. The second will be held on August 15, 1979 beginning at 9:00 AM, in the Olympic Hotel, Williamsburg Room, Fourth and Seneca Sts., Seattle, WA 98111. The third will be held on August 23, 1979 beginning at 9:00 AM, in the Holiday Inn Superdome Downtown, Russel B. Long Room, 1111 Gravier Street, New Orleans, LA 70122. The fourth will be held on September 7, 1979 beginning at 9:00 AM, in the Stouffers Riverfront Towers, Jefferson A and B Rooms, 200 South Fourth Street, St. Louis, MO 63102.

FOR FURTHER INFORMATION CONTACT: Lieutenant Commander Kenneth A. Rock, Merchant Vessel Inspection Division (G-MVI-2/83), U.S. Coast Guard, Nassif Building, 400 Seventh Street, SW., Washington, D.C. 20590, (202) 426-2190.

SUPPLEMENTARY INFORMATION: Interested persons are invited to participate in this rulemaking by submitting written views, data, or arguments. Each comment should include the name and address of the person submitting the comment, reference the docket number (CGD 75-083a), identify the specific section of the proposal to which each comment applies, and include sufficient detail to indicate the basis on which each comment is made. All comments received before expiration of the comment period will be considered before further action is taken on this proposal. Interested persons are invited to attend the hearings and present oral or written statements on this proposal. It is requested that anyone desiring to make an oral statement notify Captain Philip J. Danahy at the address listed under ADDRESSES at least ten days before the scheduled date of the public hearing and specify the approximate length of time needed for the presentation. Oral statements at the

public hearing will normally be scheduled to be heard in the order that requests are received. It is urged that a written summary or copy of the presentation be included with the request.

Draft Information

The principal persons involved in drafting this advanced notice are: Lieutenant Commander Theodore J. Sampson, Lieutenant Commander Kenneth A. Rock, Project Managers, Office of Merchant Marine Safety, and Mr. Stanley M. Colby, Project Attorney, Office of the Chief Counsel.

Background

Tank barges exist in a variety of configurations. Some are little more than compartmentized boxes having only a single layer of steel at any point on their hull. Others have end voids, full or partial double sides or bottoms, independent cargo tanks, or various combinations of these features. For the purpose of this advance notice, only a tank barge that has at least a complete double hull, including the end voids and double walls and bottoms, (but without a double deck) is considered a "double hull barge." All others are referred to as "single hull barges."

The current profile of the tank barge fleet shows that approximately 2130 single hull tank barges exist. Some are newly constructed while others were built in the early 1900's. Normal attrition of these tank barges from the fleet would find more than 50 percent still active in 1988, 25 percent still active in 2000, with total replacement not likely until after 2020. If the double hull tank barge construction requirements for new barges, proposed elsewhere in this issue of the **Federal Register** are to have a timely, appreciable effect on reducing the current volume of oil spilled by barges, it is clear that single hull tank barges will have to be removed from service at an accelerated pace.

In a notice of proposed rulemaking issued December 24, 1971, (36 FR 24960) this same problem was discussed. The accelerated phaseout of existing single hull barges would have been provided by a preclusion of the "rebuilding" of these vessels to original conditions, but allowing individual plate renewal or repair of damaged areas. As an alternate approach, the possibility of specifying a termination date for the use of single hull barges was proposed.

Numerous comments on the proposed approach and its alternatives were received. Comments from representatives of the barge operators, while supporting the intent of the regulations to prevent pollution, decried effecting the phaseout by proscribing the "rebuilding" of single hull barges. The alternate approach of a termination date found equal opposition. It was argued that existing single hull vessels should be allowed to continue in operation until no longer serviceable due to the economic effects upon individual companies and the inability to move the required amount of petroleum products without a tank barge fleet of adequate size.

Two commenters suggested that a joint committee of local Coast Guard and industry representatives be established in each port to act as judges of when a vessel was to be considered no longer serviceable. Such a committee is not a viable approach in that it would not provide equitable treatment nationwide for the various operators involved. Further, such a committee would be dilution of the responsibility vested by the Port and Tanker Safety Act of 1978 (92 Stat. 14800, 46 U.S.C. 391a) in the Secretary of Transportation and subsequently delegated to the Coast Guard.

Unfortunately no comments were received which offered alternate approaches to the accelerated retirement of single hull barges.

The methods of handling single hull barges which were published in that notice of proposed rulemaking were not without support. The new construction standards and "rebuild" phaseout mechanism were regarded by numerous private citizens and commenters representing environmental organizations as long overdue. The input received from Coast Guard field offices unanimously supported the phaseout of single hull barges, preferring the use of a termination date.

The suppositions of the commenters that accelerated attrition of existing tank barges could not be effected without severe economic impact on the industry and its ability to transport the nation's oil had to be examined. Both of these questions have been addressed in the Regulatory Analysis.

Since that proposed rule was published in 1971, many studies have been conducted that addressed the problem of oil pollution from tank barges. These studies have clearly shown a need to accelerate the normal attrition of single hull tank barges to achieve a timely realization of the potential reduction in oil pollution that a double hull tank barge fleet would provide. These studies have also shown that the considerable amount of oil pollution resulting from minor hull damage incidents requires mitigating action while awaiting the removal of single hull barges from service.

Discussion of the Proposals

This advance notice contains a comprehensive proposal affecting existing single hull tank barges. The Coast Guard is committed to reducing, in a timely fashion, the amount of oil pollution resulting from tank barges. However, the Coast Guard has made no firm commitment to the proposals advanced in this document. These proposals represent an initial effort to find a means to more rapidly realize the environmental benefits which will result from a double hull tank barge fleet, while not creating an undue burden upon the tank barge industry. Many assumptions and projections had to be made to evaluate the efficacy of this approach.

It is possible that some alternatives have been overlooked or that some assumptions are not valid. If these can be pointed out, this approach will then provide the starting point for improvement or refinement. If the comments received can identify an alternate method to achieve a total double hull tank barge fleet at an acceptable pace, and provide an equivalent reduction in oil pollution incidents from the single hull barges allowed to operate during the transition, this approach can be discarded in its entirety or the proposals herein can be modified accordingly. Comments are particularly requested with respect to benefits and feasibility of phasing out single hull barges within a time frame of less than twenty (20) years.

The first objective of this advance notice is to suggest a mechanism to accelerate the normal attrition of single hull tank barges from oil service. Single hull tank barges that are more than twenty years old would not be certificated for the carriage of oil after 1985. Exceptions would be made as follows:

1. Barges that have been constructed with end voids and double sides, or end voids and double bottoms, or independent cargo tanks would continue in normal, unrestricted operations until the vessel is no longer serviceable.

2. Barges converted to meet the construction provisions of paragraph 1, before the barge is twenty years old and before December 31, 1985, would be allowed the same privileges.

3. Existing single hull barges would be allowed to continue in operation without the conversion proposed in paragraph 2 until the vessel is no longer serviceable, provided the operator could

demonstrate to the satisfaction of the Commandant of the Coast Guard that:

a. The properties of the particular cargo or cargoes to be carried would preclude or significantly retard, at the ambient temperatures anticipated on the vessel's route, the outflow of the product if the hull was breeched; and

b. The temperature of the product during transport would not exceed that critical for retaining the properties demonstrated in paragraph "a" above.

4. The Officer in Charge, Marine Inspection (OCMI) could grant exemptions to individual single hull barges for the carriage of oil if:

a. The vessel is a permanently moored barge; or

b. The vessel's operation is restricted to areas of little commercial vessel traffic where the vessel would not be exposed to any of the following rigors or hazards:

(i) Locking operations;

(ii) Fleeting operations;

(iii) Midstream operations;

(iv) Possible collision with a breakaway from an upstream barge fleeting operation or mooring area;

(v) Any navigational hazard or condition where improper operation or loss of control of the tank barge could likely result in a casualty that would breach the hull.

For example: A vessel would not be certificated to operate in an area having a hard or rocky bottom where even low energy groundings would be expected to penetrate the hull. Or, a vessel would not be certificated to operate in an area having fast currents, where any loss of vessel control could be expected to result in high energy groundings or collisions.

The second objective of this advance notice is to suggest a means to reduce the number of oil pollution incidents that are expected to result from minor hull damage to single hull tank barges. Therefore, it is proposed that no exisitng tank barges would be permitted to carry oil in rake ends, corner voids, or double wall or bottom voids after December 31, 1980.

As an incentive for barge operators to more rapidly convert to double hull barge fleets, the requirements of Title 46 CFR Subchapter O would be changed to make internal inspections of double hull tank barges coincide with drydocking inspections. This would generally have the effect of lengthening the interval between internal inspections. Additionally, inspection of void spaces on externally structured integral tanks could be used by the OCMI as justification for extending the required interval of both drydocking and internal inspections. This would eliminate the need for some gas-freeing operations currently required.

Considerations in Developing Regulations Proposed

Because the need to address tank barges as a significant source of pollution was questioned in 1971 when regulations were first proposed, valuable time has been lost to make a gradual transition to an environmentally safer tank barge fleet by 1985 (The Congressional target date for elimination of polluting discharges, mentioned in the Federal Water Pollution Control Act Amendments of 1972 (86 Stat. 816, 33 U.S.C. 1251)). From a practical viewpoint, it is unacceptable to impose 1985 as the limit for use of all single hull barges. The impact on the nation's ability to transport oil and upon the economic viability of the many operators of single hull barges could not be justified by the expected environmental gains. The date of 1985 has therefore been used as the point after which the environmental benefits of a double hull barge fleet will be increasingly noticeable. To achieve this, single hull barges beyond twenty years of age should be barred from oil service.

The age of twenty years was chosen for several reasons. The transition to a double hull tank barge fleet can be 75 percent completed within a six year period which is not significantly beyond the Congressional target date for elimination of water pollution. The number of barges which would require replacement as a result of this age selection would not exceed the capabilities of today's shipbuilding industry. Approximately 1,000 vessels would be eliminated from service in 1985. But, sufficient time would be provided during the six years between the publication date of the regulations and 1985 to build all needed replacements.

The number of barges to be constructed as replacements for those retired from service in each year after 1985 could also be attained and the number of replacements needed should decrease gradually. Thus, the shipbuilding industry would not have to gear up for a short-lived massive barge production effort. Further, operators of single hull tank barge fleets would be given time to recover capital invested in recently acquired single hull tank barges. Finally, transport related pollution incidents could be reduced significantly by removing vessels from service when they reach the age where analysis of pollution data has shown the likelihood of their becoming involved in a pollution incident is significantly greater than that of newer vessels.

Including the provisions to allow some vessels to continue in service, if they have double sides, double bottoms, or independent tanks would accommodate the 403 vessels so configured. The data analyzed from the Coast Guard Pollution Information Reporting System showed that these configurations, while not reducing the possibility of a transport pollution incident to a level acceptable for an entire tank barge fleet, do reduce the risk significantly when compared only with single hull tank barges.

A joint study by the Coast Guard and the Maritime Administration indicated that the cost of retrofitting vessels was not an economically feasible alternative for the entire single hull tank barge fleet. However, since that study was completed in 1974, there have been some vessels which have been retrofitted to provide double sides. Apparently this is, for some operators, an economically acceptable undertaking. Provision would be made, therefore, to allow this as an additional alternative to the proposed phase out.

It is recognized that there are some products, defined as oil, which have physical or chemical properties that make the probability of large spills occurring as a result of hull damage less likely. It appears that there may be an appreciable number of products which, with the proper precautions or operational procedures, could be safety transported in single hull barges. With adequate input from industry, it may be possible to generate a list of these products and then project the number of tank barges that are more than twenty years of age that could be used in such service. This could ease the economic impact by providing for barges more than twenty years old a value in excess of scrap value.

Similarly, an alternate use could be provided by allowing single hull vessels to be exempted by the OCMI if certificated for limited service. The low pollution incident ratios of some of the oldest barges indicate that some service may be allowed with little environmental risk when the vessels are restricted to certain limited operations.

The proposal prohibiting the carriage of oil in rake ends and void spaces would allow an early realization of the pollution prevention benefits that these empty spaces have been shown to provide. In view of the high incidence of damage to these areas that the various studies have shown, the carriage of oil in these spaces should be curtailed as soon as possible.

The revision of the internal inspection standards for double hull tank barges would ensure that the single hull tank barges (which have the greatest potential for becoming involved in a transport related oil pollution incident) would receive the most frequent examinations. This would also provide an economic incentive for more rapidly converting to a double hull fleet.

Economic Impact

The cost of the proposed regulations discussed in this document was basically computed by assessing the early replacement cost of single hull tank barges. A normal attrition curve was projected based upon recent retirement trends. The cost of barge replacement under normal conditions was compared with the cost of barge replacement under the imposed attrition of the proposal. Assumption were made that should assure that the projected costs will be greater than actual costs.

These proposals are estimated to cost approximately $222 million dollars, or a 31 percent increase over normal expenses for the tank barge industry. A detailed discussion of the costs, as well as the benefits, is included in chapter 4 of the Regulatory Analysis. The assessment of the benefits has been difficult to make in terms of a dollar figure that would offset the cost. Information concerning current costs to the tank barge industry incurred by response, recovery, and cleanup of tank barge oil spills is solicited. Likewise, comments concerning projection of the costs associated with the regulatory suggestions are welcome.

A single draft Regulatory Analysis and Environmental Impact Statement has been prepared for this advance notice of proposed rulemaking and the notice of proposed rulemaking for new tank barge construction appearing elsewhere in this issue of the **Federal Register**. This was done so that the scope of the Coast Guard's regulatory action to prevent oil pollution from barges is clearly presented and all applicable information is available to the public in a single document. All the major background studies are included as appendices to the Regulatory Analysis.

The Regulatory Analysis establishes the need for regulations by carefully analyzing pollution and casualty data. The double hull design was selected based on effectiveness for preventing pollution due to hull damage, which was established in the 1974 Tank Barge Study. The alternatives to double hull design are discussed and the reasons for the Coast Guard rejecting these alternatives are presented. Alternatives and considerations in developing the proposals for existing single hull tank barges are also detailed.

The impacts of these rulemakings on the industries' economies, on the nation's environment, and the nation's ability to transport oil are also addressed.

(R.S. 4417a (46 U.S.C. 391a, amended by Pub. L. 95–474, Port and Tanker Safety Act of 1978) 49 CFR 1.46(n)(4))

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R. H. Scarborough,

Vice Admiral, U.S. Coast Guard, Acting Commandant.

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